

ABSTRACT OF THE DISCLOSURE

A load dispersion-type duplex communication system and duplex transmission devices are provided which are capable of preventing a communication limitation, instantaneous interruption, and/or break-down of communications, system-down that cause decreases in communication quality.

Whether each of transmission devices is in an overload state or in an allowable load state is judged. The transmission device being judged to be in the allowable load state performs duplex operation with another transmission device and the transmission device being judged to be in the overload state performs single and work-dividing operation with another transmission device. A load detecting section notifies a controller of a result state by comparing data storage capacity in a memory section with a threshold value. When the transmission device is in the single and work-dividing operation mode, low-order transmission devices synthesize and process data.